Environment Canada Environnement Canada

WORKING YOUR WAY TO A GREEN OFFICE

A Guide to Creating An Environmentally Friendly Workplace

CANADA'S GREEN PLAN
LE PLAN VERT DU CANADA

WORKING YOUR WAY TO A GREEN OFFICE

A Guide To Creating An Environmentally Friendly Workplace

This guide has been prepared by Energy Pathways Inc.
for Environment Canada's Office of Waste Management.

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CHAPTER 1

THE OFFICE OF THE '90s

Reducing our impact on the environment is one of the major priorities of the 1990s. Achieving sustainable development will require efforts from all Canadians from individuals, government and the private sector. It will entail making changes in the way we live and work, and the way we produce and deliver goods and services.

Many Canadians have already begun to make changes at home to reduce their impact on the environment, and industry has also been making changes. But there is also much to be done in the commercial and institutional sectors, and particularly in offices.

This manual discusses ways you can help to make your own office more environmentally appropriate. Whether you work in a small company or a large organization, there are many things that you, as an individual, can do to "green" your office. There are also many improvements that you can encourage others within your organization, including procurement personnel, building managers and senior officers, to undertake. By taking a careful look at your office procedures, identifying possible improvements and implementing and communicating changes, you and your co-workers can significantly reduce your office's impact on the environment.

The Green Office Goal: Environmentally Responsible Management

At home, in an industrial plant or in an office, the general goals of environmentally responsible management are the same:

- to make the most efficient possible use of resources (materials, energy and water);
- and to minimize contamination (chemical and otherwise) of the environment.

Efficient Use of Resources

The keys to efficient resource use are the "3Rs" of waste management: Reduction, Reuse, Recycling. The 3Rs are a hierarchy, with reduction being the most desirable goal.

1. Wherever possible, it is best to reduce materials, energy and water consumption, in order to produce as little waste as possible.
2. After a product or material (solid, liquid, energy, etc.) has been used once, every effort should be made to reuse it.
3. Recycling should be considered only for materials and products that cannot be reduced or reused. Although recycling does help to conserve resources and reduce wastes, there are economic and environmental costs associated with waste collection and recycling processes.
4. The fourth R: It may be possible to recover materials or energy from solid waste that cannot be reduced, reused or recycled at source. Recovery, however, is a specialized option that may not be available in all jurisdictions. *For this reason, this manual focusses primarily on the first 3Rs: Reduction, Reuse and Recycling.*

Minimization of Environmental Contamination

Minimizing chemical contamination or pollution of the environment is the other major goal of the green office. Many of the products we use in our daily work contain ingredients that are harmful to the environment.

The goal of an environmentally responsible office is to keep these substances out of the air, water and solid waste stream.

Once again, the hierarchy of the 3Rs applies. The best way to minimize pollution from environmentally harmful materials is to reduce the use of products containing such materials to a minimum, by changing processes or by substituting more environmentally benign products. Where reduction is not possible, chemicals should be reused (as long as this is permitted under applicable environmental, health and safety regulations). Similarly, chemicals that cannot be reduced or reused should be recycled wherever possible.

Some Notes on Terminology: "Hazardous" and "Environmentally Harmful" Wastes

The term "hazardous" has specific connotations in the context of environmental and safety legislation and thus is used in this manual only in that context. In addition to wastes and materials designated by current legislation as "hazardous", there are many wastes and materials that can be considered "environmentally harmful". Many products and wastes contain toxic chemicals in insufficient quantities or concentrations to be deemed hazardous under current legislation, but should still be used and disposed of with care.

Familiar office products – such as correction fluid, markers, dry cell batteries, photocopy toner and cleaning products – all contain small quantities of harmful substances, and wastes from their use (e.g., spent containers, soiled rags) can be considered "environmentally harmful". Although the quantity of harmful material in an individual product or waste container may be small, the cumulative effect on the environment of a large number of these wastes is significant. In effect, these wastes are analogous to the "household hazardous wastes" that are already collected separately for secure disposal in many jurisdictions.

One Small Step...

The two core principles of using resources efficiently and minimizing environmental contamination can be applied to every aspect of office operations. The following chapters outline how to start a greening program in your office and suggest ways of reducing waste and improving the management of resources. These include many things that you can do now, as well as measures that you can encourage management, building management and procurement personnel to undertake.

The suggestions provided in this publication are just a starting point. By looking at your own office operations and educating yourself about waste management and environmental issues, you will be able to identify many other ways to put into practice the principles of environmentally responsible management.

Many of the efforts may seem like small changes in attitude and habit, but they do add up. In fact, the greening of an office often starts small, frequently with one committed individual – but once one person starts making changes, there is often a snowball effect. By taking action wherever you can, and communicating with your colleagues and associates about the greening program, you can make a significant difference.

Putting Our House in Order

The Government of Canada, along with other levels of government and other sectors of the economy, is working to reduce waste and improve environmental performance.

The National Round Table on the Environment and the Economy

The National Round Table on the Environment and the Economy, an independent forum composed of influential individuals from government, business, science, strategic policy and the public interest sector,was appointed by the federal government in March 1989 to consider and promote ways to achieve the goal of "sustainable development". A major portion of the Round Table's current efforts are being focussed on the serious problem of solid waste management. Among other matters, the National Round Table's Waste Reduction Committee has been reviewing federal government policies and practices pertaining to waste management. Production of The Green Office Manual is Environment Canada's contribution to the National Round Table waste reduction initiative.

Canadian Council of Ministers of the Environment (CCME)

In April 1989, the CCME agreed that targets and schedules for waste minimization be established, including a 50 percent reduction in waste generation by the year 2000. The CCME also called for a National Packaging Protocol to set targets and schedules for the minimization of packaging waste and contribute to the 50 percent overall reduction; this Protocol was issued in April 1990.

The Green Plan

Canada's Green Plan for a healthy environment is the government's environmental agenda for the 1990's. It is a comprehensive and adequately funded long-term plan which sets out targets and schedules. It will also be continuously updated and adapted to suit changing circumstances. Waste management, management of toxic chemicals and resource management are all addressed in the Green Plan.

Federal Environmental Stewardship

The federal government is also incorporating the principles of environmentally responsible management into its own operations. A "Code of Environmental Stewardship" for federal departments is being developed, which puts forward general goals of waste reduction, efficient resource use and reduction of chemical contamination. Environment Canada is coordinating the development of this Code and a program of services to assist federal departments in achieving the overall goals of environmentally responsible management.

CHAPTER 2

GETTING STARTED

There are two approaches to setting up a green office, depending on the level of senior management commitment in your organization.

- Ideally, senior management should be involved from the beginning: when an effort has the blessing and backing of management, it is much easier to get things done. An effective approach is to establish a task force of managers to direct the "greening" effort. If possible, the task force should include people responsible for all aspects of office operations, including facilities management, supply and personnel. These managers are given responsibility and authority to identify environmental improvements, develop an environmental action plan and make changes – against a timetable. This approach has been used successfully by the House of Commons.

- In the absence of significant senior management commitment, individuals and groups of employees can still accomplish a lot by taking "grass–roots" actions on their own time. Even if you're the only one in your office who is interested at first, you can follow the same approach of identifying improvements, planning and implementing changes and informing others about what you're doing and achieving. In fact, the best way to get senior management onside is often to demonstrate that reducing waste and conserving resources produce visible benefits (including financial benefits and improved public profile). If you start slowly and gain credibility by demonstrating a few "successes", it's likely that management will soon be convinced.

In most organizations, improvements are due to a combination of "top–down" and "bottom–up" activities. Whether your office's program is formal or informal, though, the basic process of "greening" an office is the same.

1. Establish Responsibilities

Who's going to do what? Form a working committee to direct the "greening" program. Assign responsibilities (you could volunteer to be the coordinator) and arrange regular meetings.

Depending on the size of your organization and the initial level of senior management commitment, this may be formal or informal; setting up a committee can be as simple as talking to your co–workers to see who wants to help. The important thing is to have some way to coordinate efforts and share information.

2. Review Operations, Collect Baseline Data, and Identify Improvement

Look at current practices and decide what should be changed. Look at such things as the use and disposal of paper and other office products; coffee/lunch practices; the way chemical products are used and disposed of; energy use in equipment, appliances and the building itself; water use; transportation; product supply and purchasing.

Gather baseline data on consumption of materials, energy and water, and on waste production. Again, depending on the size of your organization and the level of management support, data collection activities can

range from a simple "walk-through" or informal survey to a detailed audit conducted by facilities management personnel. The important thing is to establish some benchmark against which future improvements can be compared.

Look for opportunities to Reduce, Reuse and Recycle; to conserve energy and water; and to improve the management of chemicals. Some opportunities will be things that individuals can do on their own, by changing their attitudes and habits. Others will require more substantive involvement from facilities managers, procurement personnel and external agencies. Some will be simple, low-cost or no-cost changes; others will require capital investment and the development of infrastructure.

Office Waste Audit Form

This sample form may be used as a basis for a waste audit of your own office. Detach or photocopy this page or modify it to meet your own needs (different generation sites, types of waste). Your own situation will also be governed by local market conditions and recycling initiatives (availability of brokers, Curbside recycling programs).

Getting a quick check on the quantities and types of paper waste that your office produces is a useful way to begin an audit of your office. A waste audit gives you a good picture of your recycling potential. Remember to check all the floors to include: availability of storage space, photocopy rooms, document shredder, etc. Examine a representative sample of waste containers to get a first-hand picture of the grades of paper being discarded. Remember, too, that even the smallest amount of lower-grade paper can lower the value of, or contaminate, the entire load.

This model audit also can be adapted to other areas of your office operation, such as energy, transportation, food services. Later on, you may want to conduct a full environmental audit to check for environmental excellence and sustainability (which can also include waste reduction, recycling, purchasing policy).

OFFICE WASTE AUDIT FORM

KEY	
Computer Paper = CP	**Old Newspaper = OP**
White Ledger Paper = WL	**Old COrrugated Cardboard = OCC**
Colored Ledger Paper = CL	**Glass Bottles, Jars = G**
Mixed Fine Paper = MP	**Metal Cans = C**
Magaziens = M	

	GENERATION SITE	TYPES OF WASTE	APPROX. QUANTITY	RECYCLING POTENTIAL	COMMENTS
EX.	Mail Room	MP, ONP, OCC, M	25 kg/week	good for OCC & ONP	
	Photocopy Room				
	Printer Area				
	Computer Room				
	File Room				
	Individual Workstations				
	General Office Area(s)				
	Other Area(s)				
	Totals		25 kg/week		

NOTES

Computer Paper: 18" tab
White ledger: white bond, photocopy paper, laser paper, deposit slips, letter sized computer paper
Coloured Ledger: coloured bond and photocopy paper, cheques, carbonless forms
Office Mixed: ledger plus onion skin, envelopes, manila file folders

THINGS TO DO

- Call local municipality for information on local recycling program
- Call provincial Environment Ministry or territorial equivalent for information about corporate/institutional recycling program
- Call local waste material brokers for information on collected materials' value; how the materials should be prepared; and delivery details
- Check with local fire department to ensure that paper waste storage meet safety standards
- Arrange for any special containers required for in-house collection
- Arrange special events to kick off recycling program

3. Develop an Environmental Action Plan and Start Making Changes

Review the possible activities and decide where to start. Assess available resources to make the changes, and set priorities. Set time lines.

If you're working "from the bottom up", be sure to obtain appropriate management approval for any changes that substantially modify office procedures or equipment, or necessitate capital expenditures or use of staff time. One of the best approaches is to start with a few no-cost and low-cost activities or "sure-fire winners" to demonstrate benefits and get both management and employees onside. Then, move on to make the changes that may require more resources. Start with some easy measures to build support, but don't stop there, more substantive changes usually produce greater environmental benefits.

4. Communicate

Communicate the goals and achievements of the "greening" program to everyone in the office. Coordinating the activities and changes as part of an overall "office greening program" will help everyone see that the cumulative impact of many small changes is significant and help to maintain enthusiasm. It can be more convenient to waste than to develop new habits, and people need to feel that their efforts are making a difference.

The importance of constant, clear communication cannot be overemphasized. People being asked to make changes need two kinds of information: motivational information (explaining why they are being asked to make changes, and the impact that their efforts have) and operational information (explaining how to change, how to operate equipment, separate materials for recycling, etc.). Regular, clear communication of both types of information is vital to the success of any green office effort (see chapter 10).

5. Maintain and Improve

As with every other aspect of running an office, it is important to monitor and maintain the greening program. In a green office, concern for the environment is an everyday part of operations, not a "one-shot" affair.

Set up means of tracking progress so that you can demonstrate tangible benefits from changes made, quickly identify and resolve any operating problems, and identify further areas for improvement. Continue to press for longer-term changes (e.g., changes that require modifications to procedures, processes and equipment; that require significant investment; or that necessitate involvement by other agencies, property managers, etc.) Some changes will take time, but it's important to keep up interest.

A program of environmental improvement is not a static thing. New products and processes are constantly being developed, and things that were unheard of a few years ago are commonplace today. As you start making changes, more opportunities will become apparent.

A Tale of Two "Green Offices"

The House of Commons and a Calgary branch of Northern Telecom are two organizations with very different mandates, facilities, and needs. But they have one thing in common: both have implemented comprehensive "greening" programs. Their experiences demonstrate that any organization can improve its operations.

"GREENING THE HILL"

In 1989, the Speaker of the House of Commons and the Members of the Standing Committee on the Environment established

a Task Force of senior managers to direct a program of comprehensive environmental improvements on Parliament Hill. The Task Force contracted a firm of environmental consultants to conduct an extensive study of operations, which formed the basis of a multi-year Environmental Action Plan.

The House of Commons greening effort is a good example of a program initiated by senior management, and its accomplishments reflect the substantive management commitment. Some of the achievements are summarized below.

- Inter-office mail is delivered in reusable envelopes, and staff are encouraged to make doublesided photocopies and reduce paper waste. The House's existing paper recycling program has been upgraded with new equipment and service, resulting in dramatic increases in the quantity and quality of paper collected for recycling.
- Members of Parliament now use porcelain cups and dishes in caucus and committee meetings, eliminating the use of 40,000 polystyrene cups per month. Catering Services has almost completely eliminated the use of disposables, and patrons of the House of Commons cafeterias are encouraged to use reusable dishes and cutlery. "Greening the Hill" coffee mugs, equipped with lids, are available to all Parliament Hill employees. Glass, soft drink can, and newspaper recycling is being tested.
- An Environment Coordinator has been hired to ensure that all "Greening the Hill" recommendations are carried out and new initiatives developed. An environmental training program is being developed for all employees.
- Three House of Commons vehicles have been converted to operate on natural gas, producing fewer emissions. Conversion of the entire House fleet is under consideration.
- Energy-efficient light bulbs have been installed in every Member's office, and further retrofits are planned. Environmentally appropriate products and methods are being tested in a current renovation project, and successful approaches will be incorporated during future renovations.
- Manufacturers and suppliers of environmentally appropriate products are favoured.
- The "Greening the Hill" newsletter keeps employees up-to-date.

These are only some of the many changes being made to "green the Hill". The Task Force and new Environment Coordinator continue to identify and implement further improvements.

NORTHERN TELECOM

Northern Telecom (NT), a private-sector company, has undertaken significant greening efforts at its Calgary Digital Switching plant. NT began a comprehensive waste reduction program in May 1989. The impetus for the greening program came from employees. The company's Resource Protection Group established a team of seven volunteers, who distributed a short staff survey and began to research recycling. This new team then communicated its findings to management and the rest of the staff.

The team identified actions to reduce wastes, from fine paper to kitchen grease. Paper was targeted first, because it represented the largest volume of waste and had the greatest immediate potential for 3R initiatives. Reduction was given the most emphasis. The company's electronic mail system was considered the most environmentally friendly, and the team issued an electronic memo "banning" all paper memos.

Staff was encouraged to sort paper for recycling, to use the back of scrap paper for notes and to photocopy double-sided for manuals, and so on. Such measures reduced paper consumption by 30 percent in the first few months.

From this success, the Calgary plant branched out into other waste reduction measures. Packaging and other suppliers were encouraged to use recycled materials, and paper suppliers are including recycled vegetable dye ink products in their bids for 1991. Some throwaway corrugated boxes were replaced with reusable containers.

Once reduction efforts were well under way, the team addressed recycling opportunities. Team members learned to research vendors of recycling equipment and suppliers of recycled products; would-be recyclers are advised to carefully purchase major equipment and consider factors such as cost, serviceability, maintenance, storage space, capacity, and volume.

NT has managed to avoid most recycling contamination problems because of its successful communication system. The greening team also produces educational articles for the company's internal monthly newsletter and items for its internal TV network. The program's successes has allowed the plant to justify the purchase of a compactor/baler and to subsidize further greening projects, employee functions and community outreach.

Highlights of the NT program, accomplished between May 1989 and April 1990:

- Waste chemicals reduced by more than 60 percent, for significant savings. New chemical purchases reduced by 20,000 kg compared with the previous year, and more than 5,000 kg of solder dross recycled.
- Paper consumption reduced by 30 percent. More than 50,000 kg of fine paper and computer paper are collected for recycling.
- Bottles and cans picked up biweekly from the plant's cafeteria; a total of 18,000 recycled in the first year.
- In the first year, the plant reduced the amount of disposal waste by 50 percent. In total, more than 100,000 kg of solid waste destined for landfill were diverted by recycling, reduction, and reuse.
- Development of the manual, Waste Minimization Guidelines.

In 1989, the plant reduced its CFC consumption levels by 90 percent from 1987 levels. The Calgary plant was involved in the production of a step-by-step manual on CFC solvent elimination. It also decommissioned all Halon flood systems and hand-held extinguishers in the plant. Another branch of NT is compiling a company manual on energy management.

The main ingredients for the Calgary program's success seem to be the participation and unwavering commitment of its management and staff at all levels. Although the original initiative came from staff, the program benefited from upper management support, allowing staff to carry out most tasks on company time.

The NT greening team offers the following suggestions for employees in other organizations who want to start recycling and greening programs.

1) Solicit upper management support (either active or passive, it's important to long-term efforts). If you are introducing a program without management commitment, proceed with caution. It's better to go slowly and succeed than to fail and lose credibility for your program.
2) Do your homework: know your markets, and get your staff's support.
3) Introduce money-saving or revenue-generating programs first: these will offset other programs and further encourage management support.

CHAPTER 3

Fine Paper Use: A Good Place to Start

Most of the waste from offices is paper. In fact, "fine" paper, such as stationery, book paper, photocopier paper and computer paper can account for more than 50 percent of the dry solid waste produced by an office. Much of this waste can be eliminated by implementing the 3Rs (reduction, reuse and recycling), so looking at fine paper use is a good place to start your office greening effort.

Reduction

There are many opportunities to reduce paper use by simple changes in individual habits and office procedures. In many cases, further improvements can be made by modifying office equipment or purchasing more paper-efficient equipment.

Individual Actions and Office Procedures

Photocopying

- Use only the amount of paper you need. Post a sign at the photocopier (e.g.,"Think Before You Copy" or "Do You Need This Copy?"
- Photocopy documents double-sided whenever possible. It is more inconvenient to make double-sided copies on machines not designed for this purpose, but it is possible. Check to be sure there are no warranty implications for your machines. Then, post a sign by the photocopier that explains how to make double-sided copies, and circulate a memo to staff reiterating the information. Specify double-sided copying for all jobs sent to print shops. If your organization doesn't already have a policy to encourage double-sided copying, work with management to develop one.
- Where practical, use the reduction feature on your photocopier to fit more on a piece of paper.
- Ensuring that all staff using the photocopier know how to operate it properly will also help to reduce paper waste. Consider asking your photocopier supplier to provide a brief training session for all employees. Ensure that new employees "learn the ropes" of the photocopier as part of their orientation.
- Timely addition of chemicals such as toner to your office photocopier can prevent ruined copies and needless waste. Coordinate with those responsible for photocopier maintenance to ensure that your copier is kept in top running order.
- Design fax cover sheets to have adequate space for messages so that you don't have to attach a separate letter or note.

Document Circulation and Communications

- If you use a computer or word processor, edit on-screen as much as possible to avoid printing multiple drafts. Encourage others to do the same.
- Reduce the number of copies made of standard documents, memos, etc. wherever possible. Distribute only one copy with a circulation list. Make an additional copy to post on a central notice board; these copies can be kept in a central file or binder for future reference.

- Do several of your co-workers subscribe to the same publication? Suggest reducing to one subscription and circulating the copy.

- Wherever practical, modify the formats of standard documents, correspondence, etc. to use less paper (e.g., by reducing margin widths).

- Regularly check distribution lists for correspondence and publications, and remove the names of those who no longer need or want the information.

- Avoid "memo mania". If your office has an electronic mail system, use it to send messages wherever possible instead of written memos. Substitute telephone calls for memos where practical

Office Supplies and Equipment

- Talk to those responsible for ordering office supplies. Encourage the purchase of bulk supplies and avoidance of over-packaging, such as note pads in cello-wrapped packages, boxes inside boxes, etc.

- Switching to photocopiers with built-in "duplexing" capability will make it easier for staff to make double-sided copies. Ask those responsible for photocopier supply or leasing to find out if this is feasible. Point out that waste reduction and other environmental benefits may offset higher capital costs.

- As the thermal paper used in conventional fax machines is not recyclable, it creates waste; in addition, because thermal paper has limited durability, most people end up photocopying faxes, which creates further paper waste. However, there are now bond paper fax machines on the market. Talk to those responsible for fax machine supply to see if it would be practical to switch to this type.

- Electronic mail systems may reduce paper use in some cases. Ask those responsible for such services in your organization if they have considered electronic mail.

Selecting Office Equipment...Keeping the environment in mind

Traditionally, office equipment purchase decisions have been based primarily on considerations of capital cost and performance. Environmental benefits or costs have not been explicitly considered. There is, however, a growing trend towards "life-cycle" costing of equipment. This involves looking at all the costs and benefits of proposed alternatives, not just the obvious capital costs.

For example, a fax machine that uses bond paper may have a higher capital cost than one using thermal paper. However, the cost of the bond paper may be lower; the operating costs of the bond machine may also be lower because less paper and staff time is required to photocopy incoming faxes. The amount of non-recyclable paper requiring disposal will also be lower, so waste disposal costs may be reduced. In fact, when all factors are considered, including environmental costs and benefits, the more expensive machine may just turn out to be the best buy.

Encourage your organization to consider life-cycle costs and benefits when making equipment purchase decisions. Sooner or later, costs to the environment must be paid. Considering them up-front is simply good business sense.

Reuse

- Collect scrap paper (e.g., "photocopier mistakes", superseded drafts, obsolete file copies, etc.) and use the clean sides for draft printouts, internal correspondence and fax transmission sheets. Order extra trays for word-processor printers and photocopiers. Keep reusable scrap paper in these trays, and encourage your colleagues to use it: circulate a memo explaining how, and post reminder signs by photocopiers and word processors.
- Use scrap paper for notes and messages, and encourage others to do the same. Investigate having waste paper bound (or cut and stapled) as note and message pads at a print shop. Use waste paper wherever possible instead of self-adhesive (sticky) notes since glued paper cannot be recycled.

When using the flip side of used paper, one way to avoid reader confusion is to stamp the used side. Employees in one branch of Environment Canada use a stamp that says **"Save Trees - Reuse Paper"**. This has the twofold effect of reducing confusion and making a visual statement to all those who receive the stamped communications.

Energy, Mines and Resources Canada has been reusing obsolete maps as message pads for years.

Recycling

Even with a concentrated effort to reduce and reuse paper, your office will continue to produce some fine-paper waste. That's where recycling, the third "R" in the waste management hierarchy, comes in.

If your office already has a paper recycling program, make sure you're using it, and using it properly (not putting non-recyclable materials in with the recyclable paper). Are others aware of and using the program? If not, do they just need a gentle reminder or does the program itself need to be improved?

What Makes a Good Paper Recycling Program?

There are three basic types of office paper recycling program. Several factors will influence the type that suits your office, including the size of your office, and whether your organization is a tenant in a building or owns the building and has control over the property management.

Tenant-Run Program

Tenant-run programs are common in multi-tenanted buildings where, for whatever reason, property management is not interested in recycling and tenants are left to make their own arrangements with a hauling company or paper broker. In many cases, the paper collection company does not pay for the paper; if it does, the revenues accrue to the tenant organization.

While this type of program is inexpensive to set up, experience has shown that it does not effectively collect all the paper that could be recycled, and "contamination" (non-recyclable paper and garbage) frequently ends up in the central bins. Since the system is basically "anonymous" (there is no check on what employees place in the desk-side containers or hallway bins), it is very difficult to pinpoint a source of contamination. As a result, the tenant company must devote considerable time and resources to monitoring the program and reminding employees (by frequent memos, brochure, posters, etc.) to

recycle and to keep contamination out of the bins.

Shared Tenant– and Property Management–Run Program

In this type of system, office tenants and the property management company share the responsibility for paper collection. This type of program is generally initiated by tenants for environmental reasons; in most cases, property management agrees to participate in a limited way because the waste diversion savings are sufficient to provide a financial benefit to property management.

Because this type of program relies on employees to take paper to centrally located bins, it is subject to the same contamination problems and low yields that plague tenant–run programs. Once again, substantial management involvement, communications and monitoring efforts are needed to make the program work well.

Full–Service Property Management–Run Program

Full–service programs, which are the most advanced recycling programs, are designed to capture the maximum quantity and quality of recyclable paper. They have become more common over the last few years, as waste disposal costs have skyrocketed and property managers have come to appreciate the waste diversion benefits of properly–operated recycling programs.

This type of program requires more substantial investment from property management (capital investment for equipment and salary costs for paper collection staff). These costs are recouped, however, because the program collects a cleaner paper stream, and diverts more of the paper from the waste stream. The waste disposal savings and the higher revenues from the paper more than compensate for the increased investment.

Experience has shown that full–service programs are the most efficient and sustainable way to divert the maximum amount of paper from the waste stream, and many large organizations are adopting this type of system. The federal government, for example, is converting its Papersave program in the National Capital Region to this system.

Components of an Effective Paper Recycling Program

- Active involvement of property management;
- Good equipment (desk–side containers, larger bins for areas of high paper generation);
- Regular service;
- Clear information provided to participants;
- Monitoring, and reporting of results back to participants.

Setting Up a Recycling Program

The first step in setting up a recycling program, or improving an existing program, is to talk to your property manager. From an environmental point of view, a full–service property management–run program is best, because it will divert the most paper from the waste stream.

Point out the benefits of a full–service program to your property manager.

- ***Financial Benefits.*** Up to 50 percent of office waste is recyclable paper. Property management will gain revenues from the sale of the recycled paper and savings from reduced waste collection and disposal costs.

- ***Environmental Benefits.*** Diverting usable paper from the waste stream helps prolong the life of our landfill sites. Recycling paper also reduces the need for virgin wood pulp (on average, 19 trees are required to produce one tonne of paper). Producing paper from recycled paper requires less energy and creates less air and water pollution than using virgin pulp.

- ***Public Profile.*** Point out to your property manager that many Canadians, including yourself, are concerned about the environment and prepared to support organizations which share that concern. Implementing an effective recycling program is a tangible way for property management to demonstrate its commitment to the environment.

If property management is genuinely not interested in the benefits of operating a full-service recycling program or feels that your office is too small to make the effort worthwhile, you may have to run your own program or compromise with a shared program. But chances are that the prospect of 50 percent waste savings, combined with enough pressure from tenants, will sell them on the idea.

The following tasks are involved in setting up a paper recycling program. Depending on the size of your office, your property managers may do this work themselves or contract it out.

1) Estimate quantities of recyclable paper produced. Look at waste disposal records (if available), and carry out a visual inspection.

2) Calculate costs (e.g., equipment, staff time) and benefits (e.g., reduction in waste disposal costs, environmental benefits). Ask local paper collection companies and brokers about collection equipment and arrangements, minimum quantities, grading and quality requirements, etc

3) Discuss the program with cleaning staff. Existing cleaning staff may be trained to collect recyclable paper, or additional staff may be hired.

4) Prepare for program launch. Negotiate final arrangements with a paper broker; order collection equipment; produce memos and flyers to explain the program to employees; and train cleaning staff. Brief staff members who produce large amounts of paper waste (e.g., photocopy and word-processing staff)

5) Launch the program. Deliver baskets/bins and flyers to all employees.

6) Monitor the program and communicate results back to participants by memos, articles in organization newsletters, etc. Let people know that their efforts are making a difference. If records show a decline in yields or paper quality, address the problem promptly.

Don't forget to explain to new employees how your office's recycling program works. Training on recycling should be included as part of each new employee's orientation.

Papersave: A Recycling Success Story

Papersave, the federal government fine paper recycling program, was established in 1976. Since then, it has become the largest office paper recycling program in Canada. More than 88,000 public servants in the National Capital Region (NCR) alone voluntarily recycle their paper through this program. In FY 1989–1990, these volunteers collected more than 11,000 tonnes of used office paper-saving the equivalent of more than 200,000 trees. Papersave is administered jointly by Supply and Services Canada, Public Works Canada and Environment Canada.

Until recently, public servants collected recyclable paper in desk–top holders and transported it to central hallway bins. The bins were then emptied by the regular cleaning staff, who took the paper to the loading dock for collection by a paper buyer. Research revealed, however, that considerably more paper could be collected, and contamination reduced, by using desk-side "blue baskets" instead of desk–top holders and by providing desk-to-desk collection service. When a pilot test of this new approach was undertaken at the Sir Charles Tupper Building in Ottawa in 1988–89, paper yields increased 146 percent in comparison with average program yields. As well, contamination of the paper was greatly reduced because of the elimination of hallway bins (a prime pathway for contamination to enter the paper stream) and because the person emptying the baskets was trained to remove contamination.

Between 1990 and 1992, all 86 NCR buildings participating in Papersave will be converted to the improved system. Individual workstations will be provided with blue baskets, which will be emptied once a week by specially trained paper collectors. Larger bins will be used in print shops, photocopy centres and other areas of high paper generation; these bins will also be emptied regularly. These changes are expected to greatly improve the operation and yields of papersave.

Here is a list of what can be recycled in some regions. Items accepted by recyclers will vary from location to location.

YES! Please Recycle

- all white and coloured paper (except red)
- computer, photocopied, laser printed and stapled paper are all OK
- telephone books (but not in your blue basket – stack in designated areas)

NO! Please Leave Out

- envelopes
- file folders
- carbon paper
- plastic (e.g., Cerlox spines)
- glued paper (e.g., sticky notes)
- newspapers
- photocopy paper wrappers
- photographic and blueprint paper
- glossy paper (glossy brochures, magazines, coated fax paper
- garbage

For more information on Papersave and on the blue basket system, call the Papersave Hotline at (613) 235–5303.

CHAPTER 4

Other Paper Waste

In addition to fine paper, other types of paper (newspaper, envelopes, magazines and other glossy publications, telephone directories, old corrugated cardboard and other packaging) also end up in office garbage. Although the quantities are generally lower than those of fine paper, there are still many opportunities to reduce, reuse and recycle these "wastes".

Reduction

- Eliminate unnecessary subscriptions to newspapers, newsletters and magazines. You can reduce the amount of "junk mail" that your office receives by asking the Canadian Direct Marketing Association to remove your name(s) from some mailing lists (see chapter 12). When subscribing to publications, include a note requesting that your name not be traded to other mailing lists.
- Review products and supplies you commonly order. Could packaging be reduced? Talk to personnel responsible for ordering supplies about buying office supplies in bulk to reduce waste.
- Write to the editors of your favourite glossy magazines to encourage them to print on recyclable paper.

Reuse

- Install a newspaper "filing rack" library; share newspapers and telephone books with co-workers.
- Reuse cardboard boxes in the office or at home.
- Reuse envelopes and file folders. Order reusable envelopes for inter-office mail. Set up office collection boxes for used envelopes and file folders in your supply area.
- Set up an "office library" for your personal paperbacks (and magazines). You'll end up buying fewer "disposable" books, and you and your colleagues will be introduced to new authors.

Recycling

Paper other than fine paper is generally less valuable, so the feasibility of setting up recycling programs will depend on quantities, markets and individual initiative.

1) Start by estimating the quantities of "other" paper types generated in your office. A quick look in waste baskets at the end of the day will give you a rough idea. Check with local paper brokers and buyers to determine the terms and conditions for collecting these paper types (e.g., minimum quantities, quality requirements). Calculate the costs (e.g., equipment, staff time) and benefits (e.g., reduction in waste disposal costs, environmental benefits) of collecting these papers. If a formal recycling program looks feasible, promote the idea to management. (See the example of the environmental office waste audit, an operations review checklist.)
2) Talk to your property managers to see if they're interested in setting up a recycling program. If they're already involved in running a fine paper recycling program, adding a collection for other paper may not be too difficult. If they're not interested, let them know that you're planning to set up a

system for your own office. Unless your office generates an unusually high quantity of glossy paper or newspapers, chances are you'll be able to collect most "other" paper types by setting up bins in a central area and encouraging employees to take their newspapers and magazines there. Be sure that fire regulations and other requirements are met.

3) Once the depots have been established, circulate and post memos to explain where employees should take their "other" paper types. Be sure to stress that these papers should not be mixed in with the fine paper stream. Kept separate, glossy papers and newspapers may have value. Mixed in with fine paper, they are considered contaminants and decrease the value of the fine paper.

Depending on your office's circumstances, the level of management interest and paper markets in your area, it may or may not be practical to set up a formal collection system for "other" paper types. If your municipality operates a "blue box" recycling program, it may be sufficient to encourage employees to take newspapers home for recycling.

Federal public servants in the NCR can recycle old corrugated cardboard (OCC) using the Papersave recycling program. Cleaners are responsible for ensuring that clean OCC is kept separate from garbage at the loading dock, where it is collected by a paper buyer.

If you're throwing out cardboard boxes, break them down and stack them neatly by your waste basket or in the hallway, and write "For Recycling" on them.

YES!	**NO!**
Please Recycle	**Please Leave Out**
• Clean corrugated boxes • Cardboard mailing tubes	• Shoe boxes or other boxboard • Waxed or poly-coated cardboard • Other packing materials

For more information, call the Papersave Hotline at (613) 235-5303.

CHAPTER 5

OTHER OFFICE PRODUCTS

Paper accounts for by far the greatest proportion of waste produced in an office. However, the same principles of "reduce, reuse, recycle" can be applied as well to waste from other products and supplies. In addition, in keeping with the principles of environmentally responsible management, chemical-containing office products should be handled responsibly to minimize environmental impact.

As with all aspects of office greening, there are many things that individuals can do to reduce waste and environmental impact. In addition, there are other changes that concerned individuals can encourage management, property management and suppliers to make.

Reduction

- Make a conscious effort not to waste office supplies. Do you really need it?
- Encourage those responsible for supplies to order in bulk where possible and to purchase "lasting" and durable (high-quality) supplies (paper clips vs. staples).
- Encourage avoidance of over-packaged goods, such as "blister" and bubble-wrap packages or single-serving containers (creamers, sugar packs). These contain a small amount of product relative to packaging.
- Where possible, encourage suppliers to ship goods in reusable containers

Reuse

- Use reusable products instead of disposable ones (e.g., rechargeable batteries instead of single-use batteries).
- Reorganize office supply cupboards to provide a central deposit for used "old, but still good" office supplies.
- Where possible, return packaging to product manufacturers for reuse.

Recycling

- Investigate the feasibility of having photocopier and printer toner cartridges "re-manufactured". If this isn't feasible with the equipment you have, ask those in charge of supply to consider "recycling opportunities" when making decisions about new equipment.

Encourage the purchase and use of products bearing the Environmental Choice EcoLogo (see chapter 9).

Chemical Products

The handling and disposal of hazardous materials are covered by provincial and federal regulations, and are generally supervised by occupational health and safety personnel and facilities managers. Most office workers are not directly involved in handling hazardous materials or wastes such as solvents, acids; if you are, you should have received training in proper procedures through the Workplace Hazardous Materials Information System (WHMIS). Wastes defined under federal and provincial regulations as hazardous must be disposed of in accordance with those regulations. If you have any questions about how hazardous

materials and wastes are handled in your office, contact your health and safety officer.

Although a surprising number of the products that we use every day in the office are not considered "hazardous" under existing legislation, they do contain chemicals that can be harmful to the environment if not handled and disposed of with care. For example, many pens, markers, correction fluids and office equipment cleaning products contain minute quantities of toxic substances. Although the amounts involved are small, the cumulative effect of these substances on the environment can be significant.

In the long term, the best approach to dealing with hazardous and environmentally harmful materials is to reduce their use as much as possible. For example, water–based correction fluids, pens and markers are becoming more readily available, as are less–toxic inks, adhesives and cleaning products. As an individual, there are a number of things you can do.

- Look into the types of products you use. Through WHMIS, product suppliers are obliged to provide Material Safety Data sheets listing any harmful ingredients in a product to be used in a workplace. Your health and safety officer should have these sheets for the products you use. Check with your product procurement personnel, less toxic alternatives may be available. For example, products intended for children, such as markers, are usually non-toxic by design.
- Never dispose of chemical-containing products down drains or toilets, or in the regular garbage system. If in doubt about how to dispose of something, call your health and safety officer.
- Encourage your facilities management personnel to establish a collection system for wastes and spent containers from products containing environmentally harmful materials. Ideally, these wastes should be collected separately by trained personnel (similarly to how many cities now collect "household hazardous wastes" separately from regular garbage), stored in appropriate containers in a secure room, and collected by a registered hazardous waste hauler for disposal in a secure hazardous waste facility.
- Encourage avoidance of products in aerosol cans. Not only do these contain a small amount of product relative to packaging, but they can also represent a safety hazard to waste management personnel because the cans may explode if heated or improperly handled.

Dry cell batteries contain minute quantities of heavy metals such as lithium and mercury. In a conventional landfill site, these heavy metals can leach out and contaminate groundwater, so batteries should be disposed of in secure hazardous waste facilities. The House of Commons has put in place a simple collection system for dry cell batteries: to obtain dry cell batteries from the stores shop, employees must bring back the used batteries. The used batteries are stored in a special container in the stores shop and collected on a regular basis by a hazardous waste hauler.

The Art of Greening

Graphic arts studios, drafting departments and photocopying/printing operations present special environmental challenges. Many of the products used in producing artwork, and the chemicals used in printing and photocopying, contain hazardous and environmentally harmful ingredients.

- Through WHMIS, personnel in art, drafting and photocopying/printing operations should have received training on the proper use and disposal of chemical products they use in their work. Product containers should be clearly labelled, and work areas should be properly ventilated. Waste containers of hazardous chemicals should be stored in a controlled area, regularly collected by a licensed hazardous waste hauler, and disposed of as hazardous waste in a secure facility. If you have questions about chemical handling procedures, contact your occupational health and safety officer.

- Properly seal press-wash and fountain–solution containers and drums to prevent evaporation and toxic fumes and save on solvents.

- For camera work, use the most suitable size of film for the job use every square millimeter of film. Point out to customers the savings from art prepared for a minimum number of shots and submitted on boards with minimal margins.

- Where appropriate, use silverless daylight films.

- Install silver recovery units for fixers and wash baths or use a silver recovery pickup service. Some service companies will install and maintain a unit in your shop for free in exchange for a negotiated proportion of the silver recovered.

- Sell film and aluminum plates to a scrap dealer or recycler.

- Use reusable cotton rags wherever possible for cleaning jobs; have them laundered by a rag cleaning service.

- In a large shop, an in-house solvent recycling unit may be practical for cleaning press wash. Otherwise, use a solvent recycling service, which will also provide you with clean, recycled solvent.

- Encourage customers to consider recyclability when specifying print jobs: use consistent and recyclable (uncoated) cover and interior stock; avoid heavily coloured paper; use binding techniques that are compatible with recycling (e.g., use staples rather than plastic or glued binding); and avoid plastic "windows".

The Environmental Choice program has licensed a variety of low-pollution water-based and solvent-based paints. Encourage facilities managers and procurement personnel to use Environmental Choice products in maintenance and renovation projects.

CHAPTER 6

MEALS AND COFFEE BREAKS

How we spend our breaks at the office also affects the environment. The same principles of environmentally responsible management can be applied, whether you have kitchen facilities in your office or dine out.

Reduction

- Avoid disposable dishes, single-serving creamers and sugars, etc. If you use a coffee service, inform them of your office's desire to reduce packaging; refuse individual coffee pouches. Stock milk, sugar and condiments in bulk to eliminate the need for single-serving packages.
- If you bring your lunch to work, pack a "garbage-free" lunch in a reusable container (e.g., a washable rigid plastic container, a milk bag washed and slit open at one end or a nylon or cloth lunch bags). Bring a drink in a thermos or reusable glass bottle instead of using single-serving juice boxes or milk cartons. Use a cloth napkin instead of a disposable paper towel or serviette.
- If you eat out, urge restaurant and cafeteria managers to eliminate the use of disposable dishes and single-serving containers. Ask if you can bring your own cutlery, dish and mug. Make your voice heard ? and take your business to "green" establishments

Reuse

- Use reusable coffee cups and keep extras on hand for visitors.
- If your office has a kitchen, use refillable soap containers. Encourage the purchase of liquid cleaning products in concentrated form. Add water as required and store in bulk containers; to use, refill small portable containers.
- Consider using reusable tea towels in your kitchen. Ask for volunteers to wash these regularly. Find out about requirements from appropriate health protection.
- Vending machines should offer soft drinks in refillable bottles. If they do not, ask those responsible for the vending machines (procurement personnel, facilities managers or food services personnel) to ask suppliers why not. If your supplier won't provide refillables, switch to one who will.

Recycling

If you and your co-workers reduce and reuse dishes and containers, your office should produce very little recyclable glass and metal waste. Most of this type of waste is generally produced in food services facilities (cafeterias, restaurants, etc.)

Depending on factors such as the size of your office, local materials markets, it may or may not be practical to set up a collection program for these wastes.

- In the short term, if there is a residential recycling program in your area, the easiest approach may be to set up a central container for these wastes and volunteer to take them home for recycling.
- If quantities merit, talk to property management about setting up a formal collection system for used glass and cans. In most cases, a fairly simple system can be set up if there is a local

broker or waste hauler willing to accept the materials collected. The easiest method is to set up bins for glass and cans in food services areas and post signs explaining what should and should not be placed in the bins. A memo can be distributed to all employees explaining the collection system, and employees can be encouraged to take any recyclable container waste to the bins. Your property manager (landlord) should pay for any pickup service charge; costs will be offset by disposal savings that you generate through your volunteer effort.

- If your office has a kitchen, collect compostable food waste in a covered container for a volunteer to take home daily.

- Composting of restaurant and cafeteria food preparation wastes is not yet well established. You should, however, encourage the managers of any restaurants and cafeterias you frequent to investigate this option. Municipal authorities, local farmers or gardening enthusiasts may be willing to collect compostable wastes

- Used frying oil can be rendered for reuse in pet food and chemical products. Encourage the managers of your favourite restaurants to give their used oils to local renderers.

When renovating your office, consider adding a kitchen with a refrigerator, sink, dishwasher and microwave oven to encourage staff to bring their own "garbage-free" lunches.

A dishwasher, you ask? Dishwashers have been found to use less water than handwashing. According to a study conducted in 1988, the average dishwasher uses 37 litres of water per load compared with 60 litres for an equal amount of dishes hand washed.

Because 80 percent of the cost of running a dishwasher is in heating the water, the features to consider relate to how they affect the amount of hot water used. Select a model that uses less hot water to conserve energy and water; check the Energuide labels. Machines that offer choices of cycles allow you to use less water for dishes that are not as dirty. Use the shortest cycle: shorter cycles can save up to one third in electricity.

Use only when full. You'll also have to have enough coffee mugs in the office so that even when you've loaded your dishwasher, you'll still have enough to go around. Don't pre-rinse dishes in the sink. Use the "air dry" option or shut off the unit before drying and open the door. If possible, operate at off-peak hours. And use phosphate-free detergents.

CHAPTER 7

CONSERVING ENERGY AND WATER

In a green office, all resources, including energy and water, should be prudently managed. Again, there are many actions you can take yourself, while others require the involvement of facilities management staff.

Conserving Energy...

Individual Actions

- Encourage management to endorse a policy encouraging minimizing energy use.
- Turn off desk lights and other equipment when you leave your office. Encourage others to do the same. Post signs by commonly used appliances (e.g., Please turn this off when you've finished, Last one out, turn this off).
- Find out from your suppliers what are the most appropriate ways of turning off computers and similar electronic equipment. Consider the use of power bars to shut off your equipment.
- Consider the new compact fluorescent light bulbs, which provide the same light as higher wattage incandescent bulbs yet use only a fraction of the energy; although they're a bit more expensive, their life span is five to nine years of heavy use. Halogen lights are also efficient; the bulbs are similar to incandescent ones, but they produce a white light and last two to four times longer.
- Long-life incandescent bulbs are useful for hard-to-reach places, where changing light bulbs can be difficult and expensive. But, while these bulbs last a long time (from 1,500 to 10,000 hours compared to 750 to 1,000 hours for normal bulbs), they put out up to 30 percent less light while using the same amount of energy.
- If your office is equipped with blinds or curtains, shut them at the end of the day in winter to keep heat leakage down. In summer, use them to prevent your office from overheating.
- If there is an opportunity, introduce use of lighting timers or motion detectors.
- Take the stairs rather than the elevator whenever possible.

Equipment and Building Modifications

- If your office is about to buy a new appliance, make sure it's energy-efficient. Check with Energuide Directories, a free publication from Energy, Mines and Resources (see chapter 12).
- Purchase timers for appliances (e.g., coffee machines) and office equipment (e.g., laser printers) that need to be left on before or after hours. Timers can be set up to turn off power during the night. If your office has a kitchen, consider purchasing a microwave oven to reheat lunches; it uses half the energy of a conventional oven.
- Encourage your building owner or manager to install energy-efficient lighting. Also encourage the installation of individual controls for overhead lights so that you can turn your light off when it is not needed.
- Encourage property management to increase the differential between night

and day thermostats (thermostat settings should be lower for night).

- Encourage management to modify dress codes so that building temperatures can be set higher in summer and lower in winter without causing employee discomfort.
- When redecorating or refurbishing offices, install blinds and window shades to reduce summer overheating and lower air conditioning loads.
- When planning the renovation of office facilities, take advantage of the opportunity to incorporate more substantive energy conservation measures, such as increased insulation levels, better air-sealing and upgraded heating and ventilation systems. Investigate the potential of passive solar heating and natural ventilation.

Grounds Maintenance

- Encourage those responsible to water the grounds only when necessary and at the right times of day. Discourage their use of chemical fertilizers, herbicides, and pesticides.
- You can introduce a compost pile for clippings and rakings.

Reducing Water Use....

Individual Actions

- Be sure to always turn off taps tightly so they do not drip, and encourage others to do the same.
- Watch for leaks around plumbing fixtures and report them promptly to appropriate repair staff.

Equipment and Building Modifications

- Encourage property management to install water-conserving devices, such as faucet aerators, tap flow–restrictors and toilet water–savers.
- When facilities are being renovated, encourage property management to install low-water-using taps, toilets and showerheads (where applicable).

CHAPTER 8

TRANSPORTATION

Pollution from motor vehicles is a significant contributor to acid rain, global warming (the "greenhouse effect") and urban smog. As an individual, you can help to address these problems by changing your form of travel to and from work. You can also encourage your organization to reduce the need for work–related travel and to improve the efficiency and emissions of its vehicle fleets.

Individual Actions and Policy Changes

- Walk to and from work, if possible, and when you go out for lunch. Encourage others to do the same.
- Bicycle to work, and encourage your co–workers to follow suit. Post maps of bicycle routes on a central notice board.
- Use public transit wherever possible, and encourage others to do the same. If bus service to your office location is poor, assign an employee to lobby the transit company for route changes. Provide the transit company with a list of people who would use the bus if service were better.
- If you must use a vehicle, don't let it idle for more than a minute. Idling uses more fuel than re-starting it and creates needless polluting emissions. Use a fuel-efficient vehicle and keep it well maintained. Use Environmental Choice certified re-refined motor oil.
- Start a car pool, and encourage others to do the same. Post a map or circulate a questionnaire to find out which employees could ride to work together.
- Encourage management to provide an incentive for car pools by providing parking or reducing parking fees for multi-passenger vehicles.
- Use the telephone or fax instead of couriers whenever possible. For short–distance courier deliveries, encourage the use of bicycle courier services.
- Encourage policies to favour teleconferencing instead of travel wherever possible.

Set up a Staff Transportation Efficiency city map on a central bulletin board, colour-coded to indicate which employees live where. This is an excellent way for larger organizations to match up car pooling, walking and cycling partners.

Equipment and Building Modifications

- Encourage facilities management or property management to install secure, covered or indoor bicycle parking. Racks should accommodate all sizes of bicycles (including mountain bikes) and be of good quality so as not to damage the bicycles.
- Encourage facilities management to provide shower facilities and lockers for staff who walk, run or cycle to work.

Vehicle Fleets

- Ensure that all fleet vehicles are well-maintained and that a fleet management information system is in place.
- Encourage fleet managers to use Environmental Choice–certified re–re-

fined motor oil, to recycle batteries and solvents and to use retreaded tires (particularly for trucks), if they are not already doing so.

- Encourage fleet managers to purchase high-efficiency vehicles and to use the smallest vehicle possible to do the job.

- Encourage fleet managers to convert high-mileage vehicles to natural gas or propane. Both of these alternative fuels produce fewer emissions than gasoline; natural gas is particularly clean-burning. Many commercial fleet owners have realized substantial savings using alternative fuels. Information on vehicle conversion is available from Energy, Mines and Resources (EMR) Canada (see chapter 12).

The House of Commons has converted three vehicles (a five-tonne truck and two shuttle buses) to natural gas. The cost savings and environmental improvements have been so great that the House is looking at converting its entire fleet to natural gas.

CHAPTER 9

USING YOUR BUYING POWER

Improving office operations often involves changing the types of products used and purchased. Even if you're not directly involved with purchasing, you can still influence what is bought by speaking with the people in purchasing departments and with property managers. Ask them about buying environmentally appropriate products. Ideally, your organization should adopt a policy to encourage the purchase of such products.

What Are "Environmentally Appropriate" Products?

Environmentally appropriate products are those that best meet the aims of environmentally responsible management (i.e., using resources efficiently and minimizing chemical contamination). Products approved under the Environmental Choice program have been exhaustively investigated and found to be the least environmentally damaging in comparison to other available products of the same type.

The EcoLogo: An Environmental Stamp of Approval

Environment Canada's Environmental Choice Program was established to help consumers make environmentally sound decisions and to encourage commercial development of less harmful products. A Board appointed by the federal Minister of the Environment (with members from consumer groups, industry, science and environmental law) guides the development of standards for Environmental Choice products. Products considered to be least harmful to the environment are licensed to display the EcoLogo, the federal government's environmental seal of approval. After standards are set for a particular product category, a company can submit its product to the Canadian Standards Association for testing to determine whether it meets the Environmental Choice standard.

To date, Environmental Choice guidelines have been developed for product categories including: plastic products using recycled plastic; construction material consisting of recycled wood-based cellulose fibre; a recommended level of re-refined oil in the base stock for lubricating oil; fine paper from recycled paper; low-pollution water-based paint; solvent-based paints; zinc-air batteries; heat recovery ventilators; newsprint from recycled paper; miscellaneous products from recycled paper; and cloth diapers. In all there are guidelines for 18 categories of products. To date 57 companies have been licensed to use the Ecologo.

Other Environmental Choice product categories are constantly being developed. The program encourages manufacturers and consumers to suggest categories. Encourage your suppliers and purchasing staff to look at the types of products used in your office and suggest potential product categories to the program (see chapter 12).

In your day-to-day work, you probably use many products for which there are not yet any Environmental Choice alternatives. This doesn't mean that you shouldn't consider their environmental impacts, you can still apply some general principles of environmentally appropriate product selection and encourage your organization's purchasing staff to do the same.

General Principles for Product Selection

In general, products should meet as many of the following criteria as possible.

- Be reusable or contain reusable parts (refillable pens and beverage containers, rechargeable batteries).
- Be recyclable (uncoated recyclable paper instead of coated; non-recyclable stocks for publications).
- Contain recycled materials (paper products containing post-consumer recycled fibre, re-refined motor oil; EcoLogo products are available in both categories).
- Make efficient use of resources and energy (water-saving devices for plumbing fixtures; photocopiers capable of double-sided photocopying; energy–efficient lighting).
- Produce fewer polluting by–products and/or safety hazards during use and disposal than competing products (low-pollution water-based paints – an Environmental Choice approved product category; natural gas fuel systems for fleet vehicles).
- Have a long service life and/or can be economically and effectively repaired as opposed to replaced (energy efficient light bulbs; equipment obtained with provision for regular maintenance by supplier).

Preference should be given to product and service suppliers that:

- use products that are environmentally appropriate; use resource and energy efficient techniques and recycle their waste products; and
- manage chemicals responsibly and dispose of hazardous wastes in a manner that meets or exceeds the requirements of existing applicable regulations.

Of course, purchasing staff will have to consider environmental objectives in the context of other requirements of purchasing (i.e., operational requirements, price competitiveness, quality and availability). Wherever possible, however, the purchase of "environmentally appropriate" products should be encouraged.

The Purchasing Management Association of Canada (PMAC) offers a one-day seminar on Environmentally Appropriate Procurement Practices. As well, the Treasury Board Secretariat, Public Service Commission, Canadian Centre for Management Development (CCMD) offer environmental seminars and workshops; and CCMD is incorporating an environmental module into its senior management orientation training. Encourage your organization's procurement personnel to attend these seminars (see chapter 12).

Environmentally Responsible Purchasing: Federal Activities

Federal purchasing policies are established by the administrative Policy Branch of the Treasury Board and carried out by all federal departments. The Corporate Policy and Planning sector of SSC is currently examining its policies and practices in light of environmental concerns and acting in liaison with the Environmental Choice program. Mirroring the approach taken by Environmental Choice, the SSC policy will likely be developed on a product–by–product basis. As a first step, products containing chlorofluorocarbons (CFCs) are no longer purchased unless there is no substitute available.

In early 1990, the Canadian Council of Ministers of the Environment (CCME) endorsed a National Packaging Protocol (NAPP) developed by a national multi-stakeholder Task Force. The Protocol recommends six packaging policies for Canada, which are designed to reduce packaging waste by 50% by the year 2000. All government policies and practices affecting packaging are to be consistent with these national policies.

Although formal federal purchasing policies are established by the Treasury Board, individual departments may choose to develop informal policies to favour less environmentally–harmful pro-ducts and services. For example, Environment Canada has established a policy of printing publications on paper containing a minimum percentage of post–consumer recycled fibre. You should encourage your department's materiel management personnel to keep up–to–date on Treasury Board policies on procurement and materiel management and SSC Corporate Policy and Planning sector's work in environmentally responsible purchasing and to develop informal purchasing policies for your own department's needs as appropriate.

Helpful Hints for Purchasers

Purchasers can exert pressure on suppliers to provide more environmentally responsible products and services.

- One way to start is to establish a Statement of Principle, indicating your organization's intention to favour environmentally appropriate products and practices.
- Then, send a notice to regular suppliers indicating your organization's intentions. Include a copy of the Statement of Principle with product and service tenders or incorporate a standard clause into tenders and contracts. This will encourage suppliers to suggest environmentally appropriate products and approaches when they bid on contracts.

Sample Purchasing Notices and Standard Clauses

- Statement of Principle or Practice could read something like this: "It is the purchasing policy of this organization to give preference, where possible, to products that carry the EcoLogo symbol; contain recycled waste materials or products; or are otherwise environmentally sound (i.e., encourage reduction and efficient use of resources, and minimization of chemical pollution; and are reusable and/or recyclable)."
- A standard clause in product tenders could read: "Preference will be given to suppliers that use environmentally sound packaging practices: for example, that use reusable, returnable or recyclable packaging; packaging containing recycled content; or no packaging."
- If your organization has a Statement of Principle that defines environmentally sound products and practices, a

standard clause in a service contract could be: "The contractor shall use environmentally sound products and practices in the performance of the work to the extent that they meet acceptable performance criteria"

CHAPTER 10

COMMUNICATING AND MOTIVATING

Good communication is vital to the success of any "office greening" effort. Most people are concerned about the environment and want to do their part: given good information on goals and objectives, clear instructions on how to make changes and positive feedback on the results of their efforts, nearly everyone will participate. On the other hand, without good information and feedback, even the most committed environmentalists may eventually become frustrated, confused or uninterested.

Good communication need not be elaborate or expensive. What's more important is that communication be frequent, clear, visible and useful. In a small office, posting simple signs and memos, and providing regular verbal feedback, may be enough to do the job. In a larger organization, you can use existing channels to get your message out editors of employee newsletters, for example,are usually glad to have new material.

What's in a Name?

A good first step is to develop a name for your office greening program. A co–worker with artistic flair could volunteer to design a logo. The visual impact of using this logo and name on all your communications materials – even the simple signs you post reminding people to turn off appliances or use both sides of the paper will have a cumulative effect. Although many green actions may not seem significant when viewed in isolation, the combined impact of many actions can be impressive.

The Green Look

Another useful device is a "green office" noticeboard, where helpful hints, memos and progress reports can be posted. Simple charts or graphs can be used to show how many trees have been spared, how much energy saved, and so on. Post your policy statement (from the Board) on the need to achieve environmental excellence and sustainability in every field of activity.

Green Tours for Green Employees

Keep memos, etc. relating to the office greening program in a binder for reference by new employees. Provide a "green orientation tour" for new employees, so they know how to use the photocopier, coffee maker and other equipment in an environmentally responsible manner; how the recycling programs work; and where to find more information.

Green Thumbs

Provide practical, quantitative feedback to employees on the progress of greening efforts: report how many tonnes of waste they've reduced, how many trees they've saved by recycling paper, etc. Measure progress against a benchmark (see chapter 11).

The Green Hotline

In large organizations, it's a good idea to set up a "green hotline" to provide advice and answers to employees' questions. Providing one number to call will prevent employees from wasting time or becoming frustrated seeking answers, and will also keep managers and facilities staff from being bothered by frequent calls. The hotline should be staffed by someone actively involved in the greening program. This person should keep a log of all inquiries received: questions that

keep popping up can then be answered in newsletter articles, memos or notices on the green notice board.

Establish a suggestion box for "green" suggestions. Consider a "Green Employee of the Month" award.

The Medium is the Message

Remember that "the medium is the message" – communications should be consistent with the principles of environmentally responsible management. Target communications so that you don't create waste by producing brochures or flyers that people won't use. Make sure printed materials are recyclable.

Green Tips

Encourage your co-workers to carry the environmental message into their personal lives. Hold regular lunch-time get-togethers with colleagues to trade "green tips". Keep the environment in mind when purchasing gifts for office-related occasions – for example, a gift certificate to a diaper service makes a good baby shower present.

The Green Light

Keep up the pressure. Remember, we're all bombarded daily with advertisements that encourage consumption and waste. Make sure the green message is heard, too.

- The House of Commons produced a "Greening the Hill" booklet to publicize its extensive greening program, and it keeps employees up-to-date with a "Greening the Hill" newsletter.
- Environment Canada prepared a "Go Green at Work" booklet to provide its employees with tips to reduce the environmental impact of their work related activities.
- Northern Telecom in Calgary created an inexpensive mural to dramatize recycling accomplishments. A local high school art class painted a treeless landscape. Trees are painted in monthly to represent tonnes of paper saved by the company's recycling program.

CHAPTER 11

BUSINESS AS USUAL

The green office is here to stay, environmentally responsible management is a necessary and integral part of a sustainable future. Operating a long-term, sustainable green office requires more than just an initial effort to start up waste reduction or chemical management programs. It also involves monitoring and maintaining green programs and policies and constantly looking for further ways to improve.

- Track quantitative information on reduction in waste volumes, reduction in new products (paper, chemicals, office supplies) purchased, total quantities of materials recycled, etc. Tracking and documenting waste reduction, cost savings, and so on can strengthen the case for employees putting some time into greening.
- Where possible, establish baseline data at the outset, before you make changes, so that improvements can be tracked. Depending on the size of your organization and the level of management involvement, baseline studies could range from simple reviews to formal studies and audits conducted by facility managers or outside consultants.
- If monitoring information indicates that the greening effort is waning (recycling yields declining, paper consumption increasing, etc.), act quickly. Look carefully at operations to determine where the problem is occurring. It may be simply that employees need more positive feedback, or it may be related to more complex equipment and infrastructure problems. Quick troubleshooting will help you turn things around before old, wasteful habits set in again.
- Keep up-to-date on environmental developments and set up employee environmental training courses.
- Use the quantitative information on green accomplishments to provide positive feedback to employees through memos, bulletins, newsletter articles, etc. People will be more motivated if they are aware of the combined effect of the many small changes they're making.
- Build on your initial successes. Use the revenues from profitable programs (e.g., fine paper recycling programs) to finance less profitable waste reduction measures.
- Continue to work toward longer-term improvements (e.g., ones requiring significant changes to buildings and processes, or significant investment). Make environmentally responsible management a part of the everyday way your organization does business.
- Above all, keep smiling – this is good work and we're happy to do it.

CHAPTER 12

WHERE TO GET HELP

Environment Canada

For information and publications on waste management issues, contact: the Inquiries Centre or the Office of Waste Management of Environment Canada.

Inquiries Centre
Communications Directorate
Environment Canada
Ottawa, Ontario K1A 0H3
Tel: (819) 997–2800

Office of Waste Management
Conservation and Protection
Environment Canada
Ottawa, Ontario K1A 0H3
Tel: (819) 997–3060

For more information on the Code of Environmental Stewardship for the federal government and programs to assist departments in achieving the goals of environmentally responsible management, contact:

Office of Environmental Stewardship
Environment Canada
Ottawa, Ontario K1A 0H3

Tel: (819) 953–0608

For information on the Environmental Choice Program and "EcoLogo" products, contact:

Environmental Choice Program
Environment Canada
107 Sparks Street, 2nd Floor
Ottawa, Ontario K1A 0H3

Tel: (613) 952–9439

For general information about House of Commons activities and initiatives, contact:

Angela Ebsworth
Environment Coordinator
House of Commons
151 Sparks Street, Suite 712
Ottawa, Ontario K1A 0A6

Tel: (613) 943–1564
Fax: (613) 943–0479

For specific information about the availability of recycling programs, contact your provincial Ministry of the Environment or municipal office.

Energy, Mines and Resources Canada

For information on alternative vehicle fuels, contact:

Transportation Energy Programs
Energy, Mines and Resources Canada
580 Booth Street, 15th Floor
Ottawa, Ontario K1A 0E4

Tel: (613) 996–5958

"Energuide" directories of appliance energy consumption ratings may be obtained from:

Publications Office
Energy, Mines and Resources Canada
580 Booth Street, 15th Floor
Ottawa, Ontario K1A 0E4

Tel: (613) 995–2943

A variety of other publications relating to energy conservation are also available from this Office.

Purchasing Management Association of Canada (PMAC)

PMAC offers a one-day seminar for purchasing personnel, entitled "Environmentally Appropriate Procurement Practices". For more information, contact:

National Seminars Coordinator
Purchasing Management Association of Canada
2 Carlton Street, Suite 1414
Toronto, Ontario M5B 1J3

Tel: (416) 977–7111 (English)
(416) 977–7148 (French)
Fax: (416) 977–8886

For information about regional marketing conditions, business opportunities, and news about the recycling industry, contact:

Canadian Association of Recycling Industries
415 Yonge Street, Suite 1620
Toronto, Ontario M5B 2E7

(416) 595–5552

Canadian Direct Marketing Association

To remove your name or your organization's name from unsolicited mail-outs, write to:

Canadian Direct Marketing Association
1 Concord Gate, Suite 607
Don Mills, Ontario M3C 3N6

Attention: Mail Preference Services